

1. (Original) Coupling process between a peptide and at least one compound A, of a non-peptidic nature, bearing a function selected from the group constituted by the carboxylic acid functions and the alcohol functions, characterized in that said coupling includes a step of producing, in solution, a hydrazide link between said peptide and said compound A.

2. (Original) Coupling process according to claim 1, characterized in that it includes, for producing said hydrazide link, the following steps:

a) activation of the function borne by said compound A into a corresponding reactive function, selected respectively from the group formed by the ester functions and the carbonate functions, when compound A bears, respectively, a carboxylic acid function and an alcohol function; and

b) reaction, in solution and at a pH of less than 6, between said compound A activated obtained in a) and a peptide, that is completely deprotected, bearing at least one hydrazine or hydrazine derivative group, either at its N-terminal end or at the end of the side chain of a lysine or of an ornithin possibly present at some point in the peptide sequence.

3. (Original) Process according to claim 2, characterized in that it further includes a step c) of purification of the modified peptide obtained in step b).

4. (Original) Process according to claim 2 or claim 3, characterized in that, after step a) of activation of the function borne by compound A, the corresponding reactive function borne by compound A is selected from the group constituted by succinimidyl, sulfosuccinimidyl and aryl esters and carbonates.

5. (Currently Amended) Process according to claim 2~~any one of claim 2 to 4~~, characterized by the fact that said hydrazine derivative group borne by the peptide is an α -hydrazinoacetic group.

6. (Original) Process according to claim 5, characterized in that, prior to step b), said peptide is functionalized by an α -hydrazinoacetic group, either at its N-terminal end or at the end of the side chain of a lysine or of an ornithin possibly present at some point in the peptide sequence, with the help of N,N'-tri(Boc)hydrazinoacetic acid or of N,N'-di(Boc)hydrazinoacetic acid.

7. (Original) Process according to claim 6, characterized in that the functionalization of said peptide with an α -hydrazinoacetic group is followed by a step of purification of said functionalized peptide using high-performance liquid chromatography, with the help of an eluent constituted by a water/alcohol mixture, preferably a water / isopropanol mixture, including trifluoroacetic acid.

8. (Currently Amended) Process according to claim 1 ~~any one of the preceeding claims~~, characterized in that said compound A is selected from the group constituted by lipids, sugars, alcohols and fluorescence markers.

9. (Original) Process according to claim 8, characterized in that said lipids are selected from the group constituted by saturated fatty acids, unsaturated fatty acids and sterols.

10. (Original) Process according to claim 9, characterized in that said lipids are selected from the group constituted by palmitic acid, stearic acid, cis-9,10-epoxystearic acid, oleic acid, linoleic acid and cholesterol.

11. (Currently Amended) Modified peptide, characterized in that it is essentially constituted by a peptide linked, by a hydrazide link, to at least one compound A bearing, ~~before~~

~~its link to said peptide, a function selected from the group constituted by the carboxylic acid functions and the alcohol functions~~ lipids, sugars, alcohols and fluorescence markers.

12. (Currently Amended) Modified peptide according to claim 11, characterized in that it is an oligopeptide essentially constituted by a peptide linked, by a hydrazide link, to at least one compound-lipid selected from the group constituted by~~lipids, sugars, alcohols and fluorescence markers~~ saturated fatty acids, unsaturated fatty acids and sterols.

13. (Currently Amended) Modified peptide according to claim 12, characterized in that it is an oligopeptide essentially constituted by a peptide linked, by a hydrazide link, to at least one lipid selected from the group constituted by ~~saturated fatty acids, unsaturated fatty acids and sterols~~ palmitic acid, stearic acid, cis-9,10-epoxystearic acid, oleic acid, linoleic acid and cholesterol.

14. (Currently Amended) ~~Modified peptide according to claim 13,~~ Synthetic vaccine, characterized in that it is ~~an oligopeptide essentially constituted by a peptide linked, by a hydrazide link, to~~ includes at least one lipid selected from the group constituted by a ~~palmitic acid, stearic acid, cis-9,10-epoxystearic acid, oleic acid, linoleic acid and cholesterol~~ modified peptide according to any one of claims 11 to 13..

15. (Currently Amended) ~~Synthetic vaccine~~ Diagnosis reagent, characterized in that it includes at least one modified peptide according to any one of claims 11 to ~~13~~4.

16. (Currently Amended) ~~Diagnosis reagent, characterized in that it includes at least one modified peptide according to any one of claims 11 to 14~~ Use of the residue of the process according to claim 1 for the preparation of a medicament including an active principal of a vectorized peptidic nature, useful for cell targeting.

17. (Currently Amended) ~~Use of the residue of the process according to any one of claims 1 to 10 for the preparation of a medicament including an active principal of a vectorized peptidic nature, useful for cell targeting~~ Use of N,N'-tri(Boc)hydrazinoacetic acid or of N,N'-di(Boc)hydrazinoacetic acid for functionalizing a peptide designed to be linked according to the process according to claim 5, with this taking place prior to step b), with an α -hydrazinoacetic group, either at the N-terminal end of said peptide or at the end of the side chain of a lysine or of an ornithin possibly present at some point in the peptide sequence.

18. (Canceled) ~~Use of N,N'-tri(Boc)hydrazinoacetic acid or of N,N'-di(Boc)hydrazinoacetic acid for functionalizing a peptide designed to be linked according to the process according to claim 5, with this taking place prior to step b), with an α -hydrazinoacetic group, either at the N-terminal end of said peptide or at the end of the side chain of a lysine or of an ornithin possibly present at some point in the peptide sequence.~~

19. (New) A method for cell targeting a peptide which comprises administering to a host a modified peptide prepared by the process according to claim 1 for the preparation of a medicament including an active principal of a vectorized peptidic nature, useful for cell targeting.

20. (New) A method for cell targeting a peptide which comprises administering to a host a modified peptide according to claim 11.